

Communications & Taxonomic Services Unit (CTSU)

The CTSU is the unit in the Systematic Entomology Laboratory that receives specimens, assigns/distributes them to identifiers, and reports the identifications to submitters. With the exception of some common species encountered in offices, residences/yards, CTSU does not directly provide identifications of insects or mites.

Instructions for Completing PDF Form ARS 748

Dates

Use MM/DD/YY format for dates. If the Date Needed is less than two months from the Date Submitted, explain under Remarks.

Specimen Disposition

The expense of returning specimens is a major budgetary concern for SEL. When you do not need the submitted specimens returned to you (e.g. you have retained specimens in your collection that you are certain are duplicates), it will help us if you can indicate the Keep or Discard option for Specimen Disposition. When it is important that specimens be returned, be certain to specify Return for Specimen Disposition so that we will be sure to return any specimens that are not needed for the National Collection. Please note that the identifier will often feel compelled to retain certain specimens for the National Collection, particularly when they represent species that are undescribed or poorly represented in the National Collection, when they voucher new host records, or when they require special preparation prior to identification.

Level of Identification Requested

For various reasons, it is not always possible to ID specimens to the species level, but if that is the level you need, so indicate; if other ID levels (family or generic) suffice, please indicate that. If, instead of (or in addition to) a name, you need an indication of whether the species is predatory, parasitic, phytophagous, saprophagous, please indicate that in Remarks.

Tentative Identification

If you have some assessment of the kind (e.g. family, genus) of insect or mite being submitted, please indicate. List tentative identifications on separate sheet if multiple species are being submitted.

Host

If specimens are reared from a known host (plant, insect, etc.), indicate the name of the host. Family, genus, and species are preferable to common names.

Project Description

Include 1) the project title, 2) the name of the project leader, and 3) citations of any prior correspondence pertaining to this submittal. Information you provide regarding your project will help us in determining the priority to be assigned to your lot.

Remarks

Include reasons for needing report sooner than two months from date of submittal (if you have so indicated above), and Reason for Submittal if you have selected Other under Reasons for Submittal.

Preparation of Specimens Submitted for Identification

Because of a lack of sufficient technical assistance to prepare submitted specimens, we are including the following instructions to help you to prepare suitable specimens. If you are uncertain how to prepare specimens, please contact CTSU. Improperly prepared specimens will not be accepted.

Pinned- Most specimens should be pinned (while the specimens are fresh); those too small or fragile for direct pinning (e.g. tiny moths or flies) should be double-mounted on minuten nadeln or carefully glued to paper points. Glue the point to the right side of the specimen, using care that the glue does not conceal critical characters. DO NOT pin specimens that have dried; glue them to points. DO NOT glue tiny moths or flies to points; use minuten nadeln. Specimens should be pinned while fresh. Moths should be submitted with wings spread. Examination of properly prepared genitalia is necessary to identify many insect species to genus or species level. Specific instructions for preparing genitalia will be supplied upon request. Puparia, pupal skins, cocoons, etc., should be placed in a gelatin capsule or glued to a card either on separate pins or the same pin. Specifically, adults of the following must be pinned or point-mounted: Coleoptera, Lepidoptera, Heteroptera, and most Diptera, Nematocera and Acalyprata (latter may be sent in alcohol or pinned).

Slide Mounts- Those skillful at preparing slides should submit mites (except Eriophyidae), thrips, aphids, most scale insects, mosquito larvae, and some Mymaridae on microscope slides. This will enable us to identify material more quickly. Larval ticks are accepted as slide mounts if they are not engorged. Specific instructions for slide-mounting the above groups will be supplied upon request.

Alcohol- Submit specimens of the following in alcohol: most scale insects, ichneumonid wasps (95% ethanol), mayflies, all soft-bodied insects (including all larvae and pupae), and most insects under 2mm in length, except as indicated below. Also, specimens in the groups listed under Slide Mounts should be preserved in 70% alcohol if not mounted. NEVER submit adults of the following groups in alcohol: beetles, moths, true bugs, or flies other than Acalyprata--which may be in alcohol or pinned--and Nematocera. Place only one kind of insect in each vial. Screw-capped vials with polyethylene-cone seals are excellent, but other kinds of screw caps are problematic and should be avoided in favor of shell vials with neoprene or silicone stoppers. Do not wax or tape vial caps; instead, use parafilm if necessary. Vials should be of clear glass and be large enough to allow the use of forceps or an eye dropper for specimen removal. However, use of vials that are too large can make it very difficult to find and remove tiny specimens. Do not use methanol or formalin solutions; use 70, 80, or 95% ethanol if possible. Isopropanol ("rubbing alcohol") is adequate only for temporary storage. To prevent dilution of the alcohol and subsequent decomposition of specimens, fresh alcohol must be placed in vials within 24 hours after initial immersion of specimens. All vials should be filled to the top, and it is especially important to eliminate air bubbles in vials containing soft-bodied insects.

Preparation of Specific Forms - Kill larvae by placing them in boiling water or in an alcohol/glacial acetic acid mixture; then transfer them to 70% alcohol. Ichneumonid wasps and mayflies should be preserved in 95% ethanol. Thrips should be killed and placed in AGA (9 parts 70% ethanol, 1 part glycerine, 1 part glacial acetic acid). Nymphal, adult, and engorged ticks should be preserved in 70-80% ethanol.

Dry, Unmounted- If whiteflies or diaspidid and asterolecaniid scales are not mounted on slides, they should be submitted on parts of the host plant placed between pieces of dry paper toweling, blotters, or other absorbent materials. Do not place specimens of these families in plastic bags. Galls containing insects should be submitted with plant material in 70, 80, or 95% ethanol. Submit eriophyid mites dry on the host plant.

Pill Boxes- Pill boxes and match boxes are not acceptable containers for submitting insects, but they may be used to submit associated plant samples, galls, or similar material. Soft tissue paper or cellucotton (not cotton) should be used in such boxes.

Identification Capability

Except as listed below, adults and immatures of all groups of insects, mites, and ticks are accepted for identification. On a case-by-case basis, depending upon the justification, material of some of the following groups may be accepted for identification or we may provide names and addresses of other experts.

Protura, Diplura, Collembola, Thysanura

Coleoptera: Staphylinoidea, Hydrophyloidea, Eucinetoidae, Dascilloidea, Scarabaeoidea, Byrrhoidea, Dryopoidea, Elateroidea (Elateridae accepted), Cucujoidea, Coccinellidae (Coccinellini accepted)

Diptera: Tanyderidae, Blephariceridae, Deuterophlebiidae, Nymphomyiidae, Axymiidae, Pachyneuridae, Psychodidae, Trichoceridae, Anisopodidae, Scatopsidae, Dixidae, Thaualeidae, Chironomidae, Agromyzidae, Sciomyzoidea, Lauxanioidea, Sphaeroceroidea, Ephydroidea, Periscelidae, Asteiidae, Carnidae, Canacidae, Chloropidae, Muscidae

Homoptera: Aleyrodidae

Hymenoptera: Stephanoidea, Ceraphronoidea, Proctotrupeoidea, Cynipoidea, Trichogrammatidae, Evaniioidea, Chrysidoidea, Sphecoidea, Scolioidea, Pompiloidea, Vespoidea. Groups of Hymenoptera Parasitica not included in the foregoing list can be accepted for identification, but they must be reared from hosts that are known at least to family. Specialists may be willing to accept non-reared material in special cases, but please do not submit such material without inquiring in advance.

Lepidoptera: Gelechioidea, Copromorphoidea, Yponomeutidae, Cossioidea, Hesperoidea, Geometroidea, Bombycoidea, Sphingoidea. Papilionoidea (true butterflies) from outside America north of Mexico, can only be accepted if 1) voucher specimens may be retained 2) the specimens have been reared or are parasitized, and 3) all specimens are fully labeled, including food plant data.

Instructions for Submittal of Specimens

1. Use this form for submitting each lot, **not for each individual specimen**

Place a copy of the form with the specimens, and mail them to:

USDA, ARS, Systematic Entomology Laboratory
Communications & Taxonomic Services Unit
Bldg. 005, Room 137, BARC-West
10300 Baltimore Avenue
Beltsville, Maryland 20705-2350

If you wish to e-mail us copies of the form and covering correspondence in Advance. Our e-mail address is:

IDservice@sel.barc.usda.gov

2. All specimens whether pinned, on slides, or in vials must be labeled with complete collection data, including locality (country, state, or other political subdivision, plus city or other landmark designation), latitude and longitude coordinates (if known), date of collection, and name (initials plus last name) of the collector(s). For specimens submitted in alcohol, please include one locality label per specimen (i.e. if there are 5 specimens in a vial, send 5 labels, not 1).

3. When the host is known, provide a label identifying the host as precisely as possible (i.e. by genus and species, not common name). For reared specimens, the emergence date should be indicated.
4. There should be a separate label with a brief, unique reference number (RN) to facilitate reporting of identifications. Assign the RNs after sorting material to order, family, and morphospecies. If specimens have already been labeled with voucher numbers relating to sites or other collecting or rearing circumstances, we still want separate RN labels placed on specimens following the sort to lookalikes. Submittals for which there are no RNs and/or that have not been sorted will be assigned a lower priority than they would otherwise rate.
5. Specimens will likely be retained for the National Collection, so if you will need to know the localities or other information for such specimens, you should keep a record of the correspondence between the RN labels and the data on other labels.
6. Specimens that are inadequately prepared and labeled will be returned to the submitter unidentified.

Inquiries About ID Status

1. Please reference the CTSU lot number when you know it.
2. Please use, mail, e-mail (address cited above) or FAX: 301-504-6482.
3. Because voice phone inquiries are disruptive, whenever possible, please avoid using our voice number (301-504-7041) for making inquiries about the status of a lot you have submitted for identification.

Credit for Identifications Provided

Publications and reports citing identifications provided via SEL/CTSU should cite the SEL taxonomists or extramural collaborators in the format indicated in the identification report. If the name of the identifier cannot be cited in the tables or text where the insect or mite names are cited, footnotes or some analogous means of reference should be used.

Analogous formats should be used for cooperating identifiers with other organizations or locations.

Whenever reprints of publications citing SEL-provided identifications can be spared, we would greatly appreciate receiving copies.

Notices Concerning Reports of Identifications

E-mail is our preferred method for sending reports of identifications. When an e-mail address is supplied, we will do our best to report identifications as they are reported by specialists. Because sending partial reports via the Postal Service requires more of our time than e-mailing them, we will report on larger submittals only after several or more identifiers have completed their assignments.

Use of FAX for reporting of identifications will be restricted to lots for which WE assign URGENT priority and then only when the submitter does not have an e-mail address.

For the sake of consistency in the SEL Identification System (SELIS), parentheses are no longer used in the author field to report names of authors of species or subspecies when the species or subspecies is placed in a genus other than that in which it was originally described.